**AWS-Cloud Platform**

1. **Introduction of AWS**

* History of AWS
* What is virtualization?
* Virtualization and cloud computing
* Types of virtualization
* Virtualization terminologies
* Hypervisor

1. **Compute EC2**

* Cloud Computing
* Introduction to Cloud Computing
* Why Cloud Computing?
* Benefits of Cloud Computing
* Types of Cloud Computing
* Public Cloud
* Private Cloud
* Hybrid Cloud
* Community Cloud
* Software as a Service
* Platform as a Service
* Horizontal vs. Vertical scaling
* Cloud Computing Issues

1. **EBS (Elastic Block Storage)**

* About AWS EBS (Elastic Block Storage)
* Create EBS volumes
* Delete EBS Volumes
* Attach and detach EBS volumes
* Mounting and un-mounting EBS volume
* Creating and deleting snapshots

1. **Understanding AMI**

* Launching your first AWS instance
* On-demand Instance pricing
* Reserved Instance pricing
* Spot instance pricing
* Setting up security
* Security groups
* Choosing the AMI
* Creating a new AMI
* Public and Private IP's
* Deploying a new instance from the created AMI
* Key Pairs
* Elastic IP's

1. **ELB(Elastic Load Balance)**

* Load-Balancer
* Create an Application Load Balancer
* Create a Network Load Balancer
* Create a Classic Load Balancer

1. **S3 (Simple Storage Service)**

* S3 Buckets
* S3 durability and redundancy
* S3 Uploading Downloading
* S3 Permissions
* S3 Object Versioning
* Static Web hosting
* S3 Lifecycle Policies
* Backup

1. **IAM (Identity Access Management)**

* Creating Users and Groups
* Applying policies
* Password Policy
* Roles
* MFA
* Encryption Keys
* Identity Provider
* Amazon Virtual Private Cloud (VPC)
* What is VPC?
* VPC configuration
* VPC security
* Elastic IP's Inbound and outbound ACL's
* VPC Peering
* VPN S/W

1. **Route 53**

* Creating zones
* Hosting a website
* Understanding routing policies
* Weighted simple and failover policies

1. **Cloud Watch**

* Cloud watch dashboard
* Configuring Monitoring services
* Configuring actions
* Creating a cloud watch alarm
* Getting statistics for ec2 instances
* Monitoring other AWS services
* Configuring Notifications

1. **Cloud Front**

* Use of cloud front
* Creating a cloud front distribution
* Hosting a website of cloud front distribution
* Implementing restrictions
* Configuring origins and behaviors

1. **RDS**

* Selecting the Database type
* Configuring the database
* Creating database
* Configuring backups
* Configuring the maintenance windows
* Connecting to the database

1. **EFS**
2. **DynamoDB**
3. **Redshift**
4. **Elastic Search**
5. **AWS Container Orchestration: ECS**

* ECS EC2 (traditional)
* ECS Fargate

1. **AWS Container Orchestration: EKS**

* EKS Architecture
* Configuring an EKS Cluster
* Provisioning Worker Nodes
* IAM Authentication
* Creating an EKS Cluster in AWS
* Developing for EKS
* Provisioning Worker Nodes
* IAM Authentication
* Creating an EKS Cluster in AWS
* Developing for EKS
* EKS in Production
* Auto scaling an EKS Cluster
* Monitoring an EKS Cluster
* Updating EKS in Production

1. **AWS Lambda**

* How do I stop and start Amazon EC2 instances at regular intervals using Lambda
* How to Execute Lambda Functions on S3 Event Triggers
* How to Cut Unused EC2 instances with AWS Lambda

1. **Simple Notification Service**
2. **Simple Queue Service**
3. **API Gateway**

* Amazon API Gateway with Spring boot

1. **AWS Serverless**

* Building a Serverless REST API with Node.js and MongoDB
* Developing Server-less applications with Spring Boot

1. **Automation**

* Automating AWS With Python and Boto3
* Cloud Formation
* Infrastructure Automation with Terraform and AWS

1. **Advanced Topics:** (Bigdata/ETL Related)

* EMR (Elastic Map Reduce for Hadoop & Spark)
* Kinesis
* Glue